



Customer number 37129  
Konstandinos Zamfes (inventor)  
Application number 10/711,333

Attachment # 1

Date: November 19, 2004

Re: Cancelling the additional claims for which fees are due.

Patent application number 10/711,333.

"Drilling Cutting Analyzer System and methods of applications."

**What is claimed is:**

**Claim 1 remains. (1.)**

**Claim 1** is an apparatus for measuring the natural gamma radiation in discrete media of drilling cuttings consists of:

**Claim 1.1 is cancelled.**

**Claim 1.1** the device of natural gamma rays receiver **13** (with sodium iodine crystal) on a side of main auger **11**.

**Claim 1.2 remains. (2.)**

**Claim 1.2** is the means of obtaining signal that is discriminating the natural gamma radiation of different formations obtained at the surface from unconsolidated material and drilling cuttings.

**Claim 1.3 is cancelled.**

**Claim 1.3** The led shield **19** protecting the measurements from surrounding radiation of earth and other materials.

**Claim 1.4 is cancelled.**

**Claim 1.4** is apparatus for measuring the natural beta radiation in discrete media of drilling cuttings consists of:

**Claim 1.5 is cancelled.**

**Claim 1.5** the device of natural beta rays receiver **12** on a side of main auger **11**.

**Claim 1.6 is cancelled.**

**Claim 1.6** the means of obtaining signal that is discriminating the natural beta radiation of different formations obtained at the surface from unconsolidated material and drilling cuttings.

**Claim 1.7 is cancelled.**

**Claim 1.7** the led shield **19** protecting the measurements from surrounding radiation of earth and other materials.

**Claim 2 remains. (3.)**

**Claim 2** is the apparatus for measuring the absorption properties of gamma radiation in discrete media of drilling cuttings consist of:

**Claim 2.1 remains. (4.)**

**Claim 2.1** two sensors. First is the gamma ray **15** and beta ray **16** receivers attached together on one side.

**Claim 2.2 is cancelled.**

**Claim 2.2** the weak directional beam **26** of gamma rays source **17** placed on opposite side of the analyzer tube **11**.

**Claim 2.3 is cancelled.**

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**Claim 2.3** the dual signal synchronously reflecting the **absorption radiation 21** and **induced radiation 16** properties of media passing inside the tube.

**Claim 2.4 is cancelled.**

**Claim 2.4** the emission produced by **Induced gamma and beta** radiation in discrete media of drilling cuttings.

**Claim 3 remains. (5.)**

**Claim 3** is the apparatus for measuring the **Induction Resistivity** properties of formation in discrete media of drilling cuttings.

**Claim 3.1 is cancelled.**

**Claim 3.1** is the plastic tube.

**Claim 3.2 is cancelled.**

**Claim 3.2** is nonconductive auger.

**Claim 3.3 is cancelled.**

**Claim 3.3** is the process of subjecting the cutting or other unconsolidated media to magnetic field to obtain the current drop signal reflecting the media properties.

**Claim 4 remains. (6.)**

**Claim 4** is the apparatus for measuring the Sonic velocities and penetration properties of formation in discrete media of drilling cuttings.

**Claim 4.1 is cancelled.**

**Claim 4.1** is the apparatus creating the source **42** to produce the sound energy for measurements.

**Claim 4.2 is cancelled.**

**Claim 4.2** is the apparatus of Sonic delta Time sensors **43** and **44**. **Claim 4.2** is the apparatus of Sonic delta Time sensors **43** and **44**.

**Claim 4.3 is cancelled.**

**Claim 4.3** consists of process of obtaining the differential signal from two sensors **43** and **44**.

**Claim 5 is cancelled.**

**Claim 5** is the process of characterization of substrata formations through measuring the drilling cuttings flow. The parameters related to Density, Grain size, Porosity and other can be related.

**Claim 6 remains. (7.)**

**Claim 6** is the parameter to correlate the quantity of sample passing at this time through the auger. The relative deflections depending on quantity will be explained.

**Claim 7 remains. (8.)**

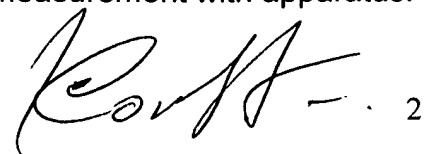
**Claim 7** is the apparatus for Fluorescence brightness measurement by injection of dissolvent **55**.

**Claim 7.1 remains. (9.)**

**Claim 7.1** is the process of constantly injecting small dose of dissolvent in to the cuttings flow.

**Claim 7.2 is cancelled.**

**Claim 7.2** is a process of Fluorescence brightness measurement with apparatus.

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**Claim 7.3 remains. (10.)**

**Claim 7.3** is sensor **54**, which measures the amplitude and frequency of light emission produced.

**Claim 7.4 is cancelled.**

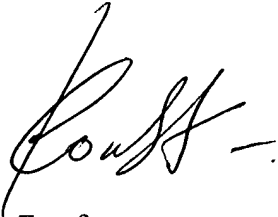
**Claim 7.4** is the measurement reflecting the hydrocarbon type, presence and saturation, properties of substrata formations through measuring the drilling cuttings flow.

**Claim 7.5 is cancelled.**

**Claim 7.5** is the time-amplitude-frequency dependency arrived from measurements.

Total claims – **10**.

Regards,

A handwritten signature in black ink, appearing to read 'Konst', followed by a horizontal line.

Konstandinos Zamfes